



Bristlecone Chapter

Dedicated to the Preservation of California Native Flora

The California Native Plant Society

Bristlecone Chapter Newsletter

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President's Message January 2017

The results of our survey are in and I would like to thank the 30% of people who responded. The activities most people enjoy are field trips, learning and helping with native plant sales and commenting or being involved in conservation issues. People felt that everything we do, except work parties at demonstration gardens and sharing the area with others, was important. Almost everyone got their information from the newsletter and the email list, next was the website and then a lot fewer from facebook. How people were willing to help was #1 growing the plants for the plant sale, #2 writing letters on conservation issues, #3 leading field trips, and #4 attending meetings regarding conservation issues. Where people thought we needed to focus our energies was #1 field trips, #2 conservation issues, #3 education or programs, and #4 native gardening and plant sales. Five people said they were willing to serve on the board, however, upon personal contact only one person was able to serve right now. The responses are helpful! Knowing that almost everyone gets their information from the newsletter lets us know how important the position of newsletter editor is. If you feel that these responses don't reflect your opinions or you would like to fill out the survey, there will be hard copies at our next general meeting, the field trip planning meeting, on January 25th.

At the January 25th meeting we will also be holding elections for the board positions. The candidates are:
President: Katie Quinlan
Vice President: Michele Slaton
Secretary: OPEN
Treasurer: Sue Weis
Newsletter/Membership: Margaret Lamb
Hospitality: temporarily Nancy Hadlock. This is a new position whose job it is to make sure there are refreshments at our meeting.

Edie Trimmer and Tom Brill who have done an excellent job on the newsletter and membership for the past four years are moving on to bigger and better things. A great big thank you goes out to the excellent work they have done to make our newsletter informative and pleasant to read.

Nancy Hadlock is turning over the monetary issues to Sue Weiss. Nancy, thank-you for wading through all those numbers and keeping our books up to date! Since Sue is taking on the treasurer position this leaves her position of Secretary open, so if you would like to come to the board meetings and see how the inner workings of the group functions let me know and we will add your name to the roster to be voted on at the next meeting. If you can't make the meeting but would like to vote you can email your vote to "president@bristleconecnps.org"

--Katie Quinlan

**Wednesday, January 25, 7 PM, General Meeting, White Mountain Research Center, 3000 E. Line Street, Bishop
Courtney Collins, 2015 DeDecker Grant Recipient
"Understanding the impacts of shrub expansion on alpine plant mycorrhizal communities in the White Mountains, CA."**

Courtney Collins will present her research into how climate and land use change have promoted the uphill movement and expansion of sagebrush (*Artemisia* spp.) from sub-alpine to alpine areas in the White Mountains of California over the last 50 years. Her research focuses on the impacts of this change on native plant communities and on biotic (living) and abiotic (non-living) parts of the soil ecosystem. She uses field, greenhouse, and laboratory experiments to disentangle the roles of plant competition and soil feedbacks on alpine plant communities and better understand aboveground-belowground interactions in this changing landscape. topic and presenter.

Summary of December 7 General Meeting

The 2016 potluck marked what was probably the chapter's most well attended general meeting ever, with over 100 attendees joining to celebrate Inyo County's Sesquicentennial with a presentation by Bruce Baldwin of the Jepson Herbarium and UC Berkeley, on "California botany & botanists of the Inyo region." Dr. Baldwin highlighted our chapter area as a botanical hotspot of diversity in the state, and presented on the personalities and accomplishments of botanists through history, including Marcus Jones, Frederick Coville, Willis Jepson, Alice Eastwood, Annie Alexander, Louise Kellogg, Mary DeDecker, and others.

His talk was preceded by a presentation from the 4th grade class from Big Pine. Each student displayed a botanical illustration and described the ecology of a native plant they had selected. Finally, the chapter rolled out a poster which is available for a small donation, in commemoration of the event, and titled "Celebrating 150 Years of Botany in the Inyo Region".

Thanks to all who attended, and to those who helped plan this event. I hope it will help to inspire us for another 150 years of outstanding botanical discovery and stewardship in eastern California!

--Michèle Slaton

From Creosote Ring Leader Kathy LaShure

Next month, Rich and I will be moving to Chico, CA. So I will no longer be the Creosote Ring leader, either in name or action. My soap business is also winding down & instead of making nearly 2000 bars a year I'll just make enough for family & close friends. I have gotten the Herbarium at the Maturango Museum into shape. I completed a final field season of Rare Plant Treasure Hunts this past spring, focusing primarily on the enigmatic, elusive *Phacelia novemmillensis*, having rediscovered its type locality in 2015 (it had not been seen there since 1967 & only once before that by Philip Munz).

I am looking forward to connecting with the Lassen CNPS Chapter when we are settled & learning some new flora. I hope that the Bristlecone Chapter continues to thrive & I will follow you via the newsletter online.

Kathy LaShure has been a great and successful advocate for native flora. She will be missed in our chapter.



Phacelia novemmillensis
--Photo by Kathy LaShure

Mary DeDecker Botanical Grant Program

In 2001, the Bristlecone Chapter established a grants program as a fitting tribute to [Mary DeDecker](#), a renowned local botanist and founding member of our chapter. Our goal is to facilitate research and projects that increase the understanding and appreciation of native plants and ecosystems in the Eastern Sierra.

Anyone may apply for a grant, but we are especially interested in helping graduate students, college students, and primary and secondary students (K-12). Research projects need not be academic or scholarly but must be relevant to the native plants of the northern Mojave Desert, Sierra Nevada, and Great Basin portions of eastern California. Applications from students must include written support from a major advisor or teacher.

Grant recipients receive *up to* \$1,000 each for expenses and are asked to present their results to the Bristlecone Chapter either at a regular meeting or in the chapter newsletter. Recipients must submit a progress report at the end of the year. The request for proposals is sent to universities and schools in September with the deadline for submissions in early December. Applicants will be notified by the end of January.

We have awarded grants to graduate students for research on various ecological, taxonomic and physiological aspects of our native flora. We have also helped to fund an education program on native plants for local schools, a mural project which included

native plants, native plant gardens and invasive weed eradication projects. These grants are supported by the [annual native plant sale](#).

Apply for a Grant

[Mary DeDecker Botanical Grant Application](#) (pdf)

- 2017 Grant Deadline is January 20, 2017
- Applicants will be notified of award by early March 2017
- **For more information, contact the DeDecker Botanical Grants Coordinator at grants@bristleconecnps.org**

DeDecker Grant Reports, 2016

Katherine Ross

My research seeks to investigate climatic effects on Sierra Nevada conifer species across an elevation gradient by assessing differences in demographic and physiological patterns. Over the course of the 2016 field season, I measured height, diameter at breast height, and diameter at base for 761 trees comprising four species across four elevations, from ~2300 m to ~2800 m. Two to four cores were collected from the subset of these trees with a DBH greater than 5 cm, totaling 674 cores. In addition, ten trees less than 2.5 m tall were harvested at each site to determine the relationship between base diameter, height, and age. I am currently in the process of mounting, sanding, and cross dating these cores to determine the age and annual growth rates of each tree. After the cores have been mounted, and cross-dated, they will be scanned and ring-width will be measured. This information will be used to compare population structure and growth rates between species and elevations.

--Katherine Ross



--Photo by Katherine Ross

Brian Smithers

With support from the CNPS Bristlecone Chapter, Brian Smithers and his crew studied how fire disturbance may speed up species range shifts in long-lived forests like bristlecone pine and limber pine forests. We looked at five fires in the western Great Basin including the Forgotten Fire in the Inyo Mountains, pictured here with research technician Asa Holland. Preliminary results indicate that while there is considerable variation in how species respond to fire, bristlecone pine is very slow to regenerate post-fire. The vast majority of the regeneration in what was once bristlecone pine is pinyon and limber pine. Pinyon pine seems to be the biggest winner as we are finding young pinyon (like the one pictured here) throughout former bristlecone pine and limber pine range. We may be seeing the beginnings of rapid species range shifts if fire becomes more common in these sub-alpine forests, with bristlecone pine potentially losing out to upslope advancing species.

--Brian Smithers

Jonah Weeks

Hello all, my name is Jonah Maria Weeks and I am currently a Masters student at UC Davis where I am studying how high severity fires impact understory plant diversity in conifer forests. As a recipient of the Mary DeDecker Botanical Grant I wanted to look at the effects of fire severity in Eastern Sierra yellow-pine communities. This past August, Jesse Miller (botanist and post-doctoral researcher with UC Davis) and I conducted a post-fire study across the area burned by the Walker Fire in 2015. We surveyed 32 sixty-square-meter plots in areas that had burned with varying severity and collected information about all understory plant species present. We then looked at the relationship between fire severity and total understory richness (Figure 1) and also broke down our plant data into common plant groupings (forbs, graminoids, and shrubs) to determine if the effect of fire severity varied between plant groups.

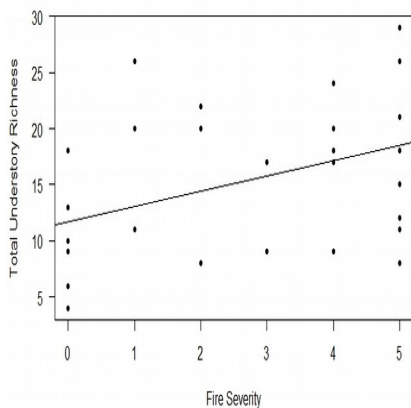


Figure 1. Effect of fire severity on total understory plant richness.

R squared = 0.0578

p-value = 0.01401

The analyses conducted using these data show only a weak statistical relationship between fire severity and plant richness. However, this does not prove or even necessarily indicate that there is not a strong effect of fire severity on plant communities. We conducted our study only a year after the fire, and there was very little precipitation in that time period. Because of these factors, it is possible that the plant communities had not yet reached their maximum response to the fire. We also plan to consider the functional traits of the plants in future analyses to determine if the signal of the effect of fire severity is being lost or dampened by the current groupings. Other plant community metrics such as species evenness may also be important factors in helping determine the role that fire severity plays on yellow-pine communities in the Eastern Sierra.

--Jonah Weeks



Jesse Miller at center of a high severity plot.

--Photo by Jonah Weeks

Howald Matson 2016 Collaboration

Every year Anne Howald, working diligently on a checklist for the flora of Mono County, provides me with information about certain taxa which have not been collected before or which have no decent online imagery. Usually I receive an email or text and picture with some locality data. With that data I go out on my own to find what Anne had tipped me off about.

Years ago when I heard stories of bird watchers driving across the state to see some unusual bird and then driving home, I thought that seemed a bit silly. But fast forward 10 years, and I found myself driving 2.5 hours from Tahoe to Mono City early one morning to meet Anne in person so we could collect (Anne) and photodocument (me) some unusual plants. Just west of the Nevada border are a few low hills with an unusual soil type. I would later call these the "Broken Pottery Hills" as it did in fact look like someone had scattered broken pottery across the sandy soils. Anne had visited the site the prior year (2015) and invited me to come along on her 2016 excursion to the same locality.

This site is the only known location in California of a population of the plant *Astragalus kentrophyta* var. *ungulatus*. Jerry Tiehm had found this plant (more common to the east in Nevada) in California for the first time in 1998. This little mat-forming gem with smallish flowers was an excellent find. I had never seen this taxon before and the genus *Astragalus* is one of my favorites. It is also one of the largest genera in California, behind only *Carex* and *Eriogonum* in numbers of taxa.

However that was not all. Not far away was another matted beauty *Physaria ludoviciana*. And this time it was adorned with bright yellow flowers. Truth be told, it was also found and collected in 2004 by Jerry Tiehm and Jan Nachlinger. And once again this was the only known locality in California (more common to the east). Anne collected it here with me in June for the first time.



Physaria ludoviciana
--Photo by Steve Matson



Astragalus kentrophyta var. *ungulatus*
--Photo by Steve Matson

One other plant we found, new to me and a bit more widely distributed in eastern California was something else from the Mustard family, and definitely taller, was *Thelypodium milleflorum*. From these last two images you can get a sense of the soils in this region, the "broken pottery" which is probably some carbonate compound associated with an old spring or shoreline deposit. Sue Weiss led a field trip to this site in August of this year. Anne and Jerry Tiehm were also able to attend.

A little closer to home, Anne had told me about a certain *Phacelia saxicola* growing in the Tablelands north of Bishop. Some of my old images of *Nama pusillum* from near Fish Slough she thought might in fact be *P. saxicola*. Distinguishing between these two genera is not easy when you are looking for unequal stamens in a very tiny flower. Upon review, I am inclined to agree that my images are mislabeled. A wetter year provided a better year for this little annual but I never made the trip in a timely manner to visit sites found by Anne. Rumor has it Stephen Ingram also found populations of this plant Northwest of Bishop. As it turns out this plant is quite rare in California, with current Herbarium records showing merely two collections, one from Hammil Valley and the other from Fish Slough. I will make a greater effort next year to locate this little beauty, assuming rains are sufficient.

--Steve Matson



Thelypodium milleflorum
--Photo by Steve Matson



Phacelia saxicola
--Photo by Steve Matson

New Penstemon Guide

NYBG Press is pleased to announce the 7th volume of the *Intermountain Flora* series, *Potpourri: Keys, History, Authors, Artists, Collectors, Beardtongues, Glossary, Indices* by Noel Holmgren and Pat Holmgren. Included in this ninth part of the series is an update to the 1984 treatment of *Intermountain Penstemon* published in volume 4, keys to families represented in *Intermountain Flora*, a cumulative index for all seven volumes, and a history of the project that includes photographs of authors, artists, and plant collectors of the Intermountain West.

--Hugh MacMillan, President, American Penstemon Society

Double Your Dollars for California's Native Plants – \$50,000 Matching Gift Opportunity



--Photo by Nancy Buck

As the year comes to an end, you have a chance to [double the power of your donation](#) to CNPS. Your gift will be matched by a CNPS member who has committed \$50,000 to encourage us all to be generous.

Please take advantage of this by donating now or responding to our CNPS appeal letter, due to arrive in your mailbox any day. Thank you for your support of California's amazing native plants!

Up-Coming Events
Bristlecone CNPS Events (for updated information, visit bristleconecnps.org)
Wednesday, January 18, 6 PM, Conference Room, 351 Pacu Lane, Bishop. Bristlecone Board meeting. All members welcome
Wednesday, January 25, 7pm. General Meeting. White Mountain Research Center, 3000 E. Line Street, Bishop Courtney Collins, 2015 DeDecker Grant Recipient will present "Understanding the impacts of shrub expansion on alpine plant mycorrhizal communities in the White Mountains, CA."

Please have your articles or information to us by February 15, 2017.

Bristlecone Chapter Directory

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 Vice President: Michèle Slaton 760-938-3258
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 DeDecker Grants: Michèle Slaton 760-938-3258
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 Mammoth Plant Sales: Sherry Taylor 760-934-2338
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 Membership: Margaret Lamb
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 Posters: Nancy Hadlock 760-263-5022
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 T-shirt Sales: Scott Hetzler 760-873-8392
 DeDecker Garden: Richard Potashin 760-263-5022

The California Native Plant Society

Bristlecone Chapter

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Membership

The California Native Plant Society is an organization of laypersons and professionals united by an interest in the plants of California. It is open to all. The society, working through its local chapters, seeks to increase the understanding of California's native flora and to preserve this rich resource for future generations.

To Join or Renew Online: Go to cnps.org and click on the JOIN/renew button at the top of the page, or mail in the form below:

Name: _____

Address: _____

City: _____ **State:** _____

Zip Code: _____ **Phone:** _____

Email: _____

I wish to be affiliated with the Bristlecone Chapter: _____

Other: _____

Membership Category

- | | |
|---|-------|
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| <input type="checkbox"/> Individual | \$45 |
| <input type="checkbox"/> Family | \$75 |
| <input type="checkbox"/> Plant Lover | \$100 |

- | | |
|--|--------|
| <input type="checkbox"/> Patron | \$300 |
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| <input type="checkbox"/> Mariposa Lily | \$1500 |
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